

WHAT IS CLAIMED IS:

1. A method of increasing the yield of a biologically active protein from a selected precursor polypeptide comprising culturing a host cell transfected with a DNA sequence comprising a nucleotide sequence encoding PACE SEQ ID NO: 1 operatively linked to a heterologous expression control sequence permitting expression of the nucleotide sequence and a DNA sequence comprising a nucleotide sequence encoding the precursor of a desired protein, operably linked to a heterologous expression control sequence permitting expression of the nucleotide sequence.

2. The method according to claim 1 wherein said PACE DNA sequence SEQ ID NO: 1 is present on one vector and said precursor DNA sequence is present on a second vector.

3. The method according to claim 1 wherein said PACE DNA SEQ ID NO: 1 and said precursor DNA are present on a single vector.

4. The method according to claim 1 wherein said precursor is a precursor polypeptide of a protein requiring γ -carboxylation for biological activity.

5. The method according to claim 1 wherein said precursor is a precursor polypeptide of a blood coagulation protein.

6. The method according to claim 5 wherein said protein is selected from the group consisting of Factor IX, Protein C, Protein S, Prothrombin Factor 10, Factor VII and bone gamma-carboxyglutamate protein.

7. The method according to claim 5 wherein said protein is Factor IX.

8. The method according to claim 1 wherein said host cell is a eukaryotic cell.

9. The method according to claim 8 wherein said host cell is a mammalian cell.

10. The method according to claim 9 wherein said host cell is a Chinese Hamster Ovary cell.

11. A host cell transfected with a DNA sequence comprising a nucleotide sequence encoding PACE SEQ ID NO: 1 operatively linked to a heterologous expression control sequence permitting expression of the

nucleotide sequence and a DNA sequence comprising a nucleotide sequence encoding the precursor of a desired protein operatively linked to a heterologous expression control sequence permitting expression of the nucleotide sequence.

12. The cell according to claim 11 wherein said precursor is a precursor of a protein which requires gamma-carboxylation for biological activity.

13. The cell according to claim 12 wherein said precursor is a precursor polypeptide of a blood coagulation protein.

14. The cell according to claim 13 wherein said protein is selected from the group consisting of Factor IX, Protein C, Protein S, Prothrombin Factor 10, Factor VII and bone gamma-carboxyglutamate protein.

15. The cell according to claim 13 wherein said protein is Factor IX.

16. The cell according to claim 11 which is a eukaryotic cell.

17. The cell according to claim 16 which is a mammalian cell.

18. The cell according to claim 17 which is a Chinese Hamster Ovary cell.

19. A recombinant DNA molecule comprising a DNA sequence comprising a nucleotide sequence encoding PACE SEQ ID NO: 1 operatively linked to a heterologous expression control sequence permitting expression of the nucleotide sequence and a DNA sequence comprising a nucleotide sequence encoding the precursor of a desired protein operatively linked to a heterologous expression control sequence permitting expression of the nucleotide sequence.

20. The molecule according to claim 19 wherein said precursor is a precursor polypeptide of a protein requiring γ -carboxylation for biological activity.

21. The molecule according to claim 20 wherein said precursor is a precursor polypeptide of a blood coagulation protein.

22. The molecule according to claim 21 wherein said protein is selected from the group consisting of Factor IX, Protein C, Protein S, Prothrombin Factor 10, Factor VII and bone gamma-carboxyglutamate protein.

23. The molecule according to claim 22 wherein
said protein is Factor IX.